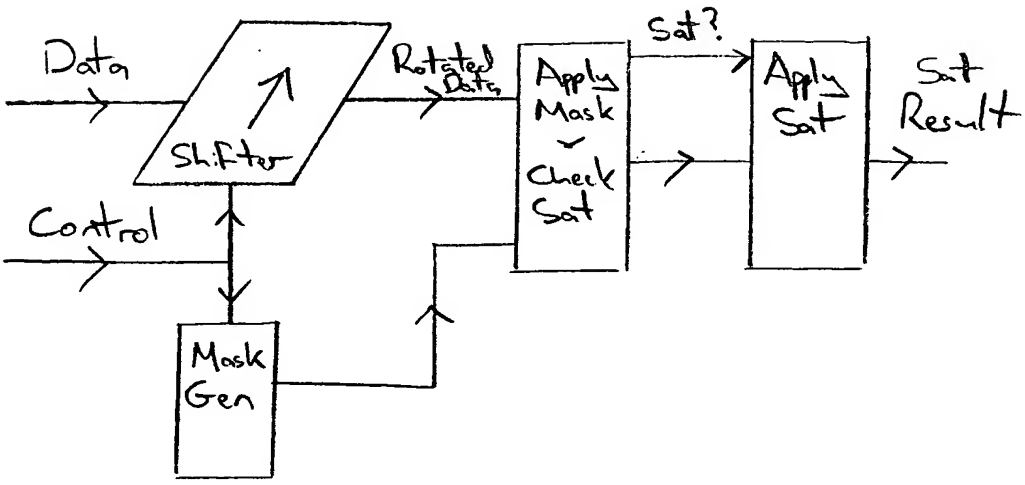
Data
Shifter
Rotated Data
Apply Mask
Check Sat
Sat?
Apply Sat
Sat Result
Control
Mask Gen

Fig. 1

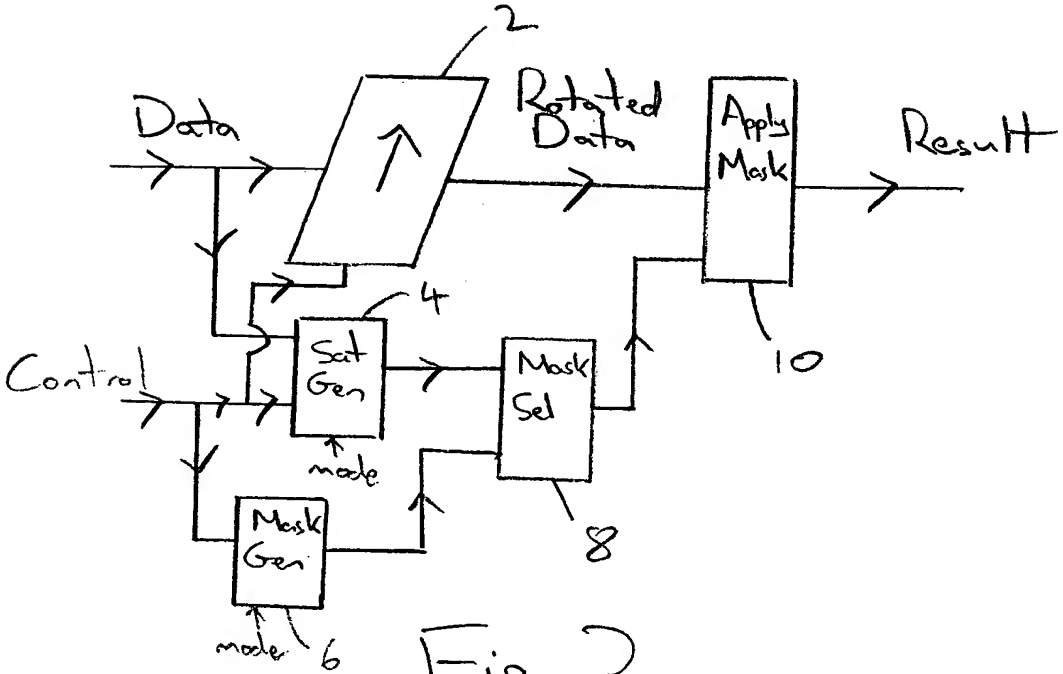
2
Data
Rotated Data
Apply Mask
Result
4
Sat Gen
Control
Mask Sel
10
mode
Mask Gen
8
mode
6

Fig. 2

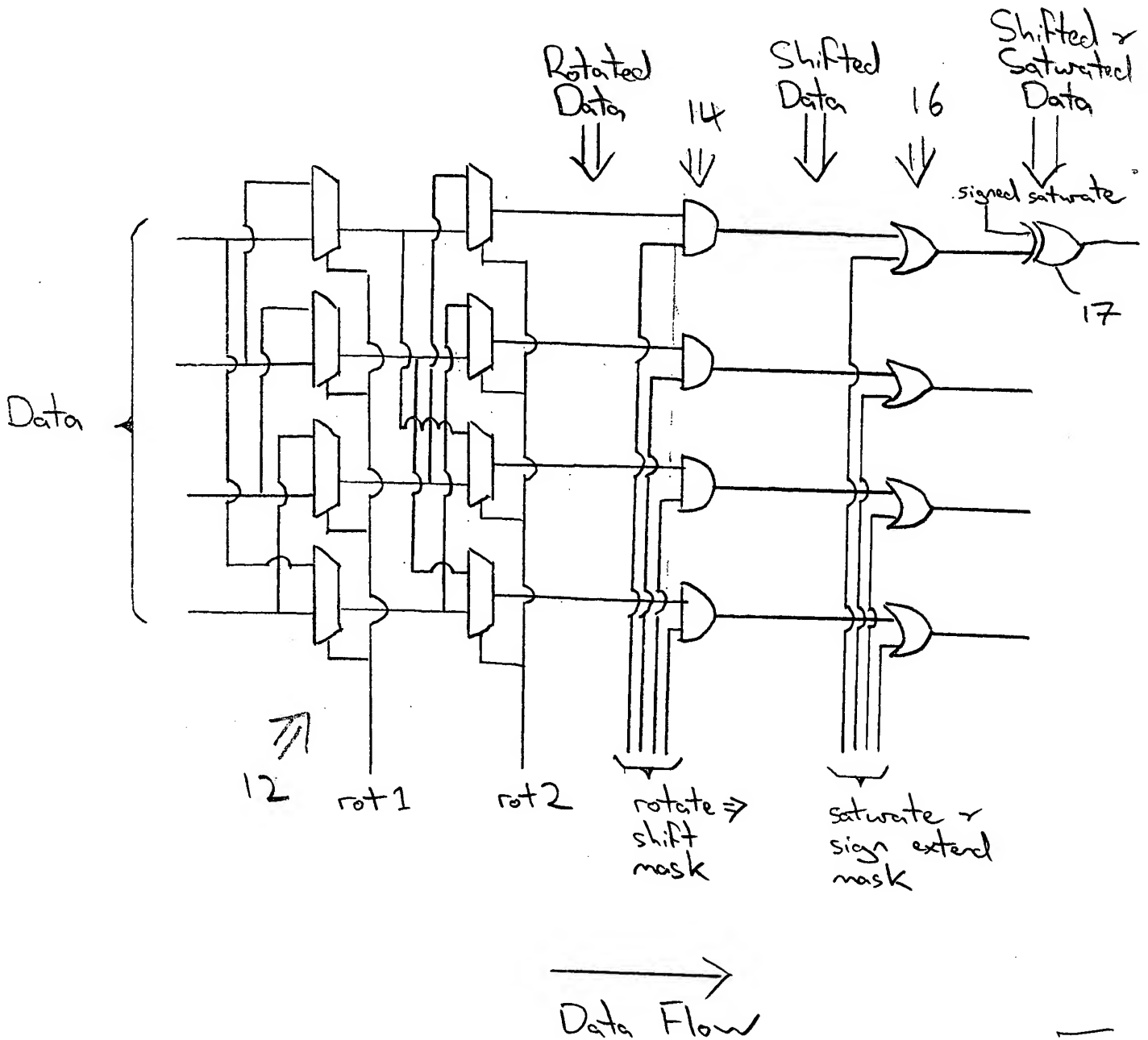
Rotated Data
14
Shifted Data
16
Shifted & Saturated Data
signed saturate
17
Data
12
rot1
rot2
rotate ⇒ shift mask
saturate & sign extend mask
Data Flow

Fig. 3

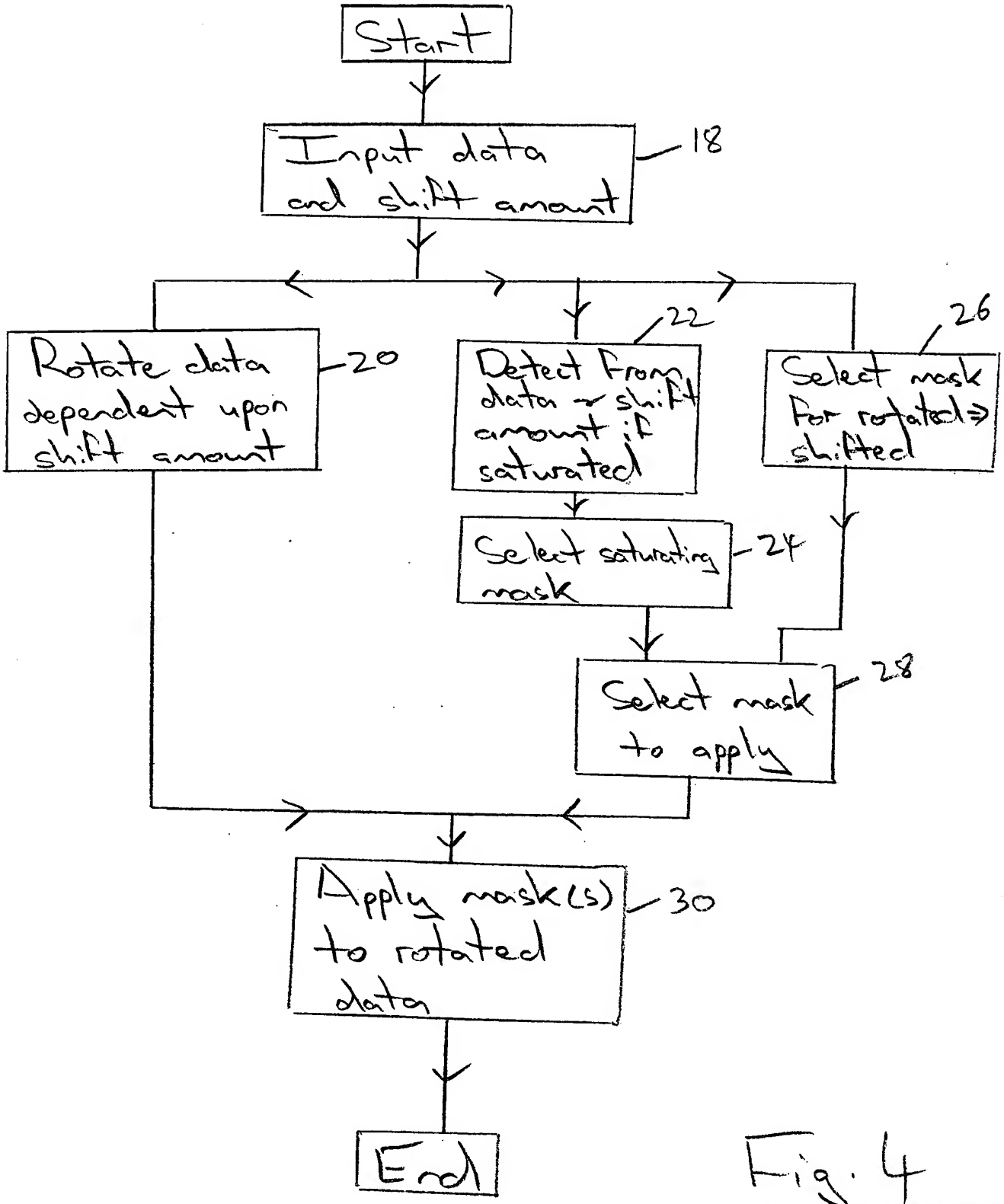
Start
Input data and shift amount
18
Rotate data dependent upon shift amount
20
Detect from data + shift amount if saturated
22
Select mask for rotated & shifted
26
Select saturating mask
24
Select mask to apply
28
Apply mask(s) to rotated data
30
End

Fig. 4